

Cost Estimates - Job Descriptions

Norcronk Sand and Gravel Pit
 Sleeping Bear Dunes National Lakeshore
 Geologic Resources Division/Smith
 October 1998

Job 1 - Create and Remove Accessway

Job sub-number	Description	Equipment required	Av. Grade (%)	Av. Haul distance (ft)	Material type	Material volume (cy)
--	Build access road between M22 and soil pile Z	Dozer	30	12	sg	50
Total						

Job 2 - Topsoil/Organic Material Salvage and Topsoil Excavation

Job sub-number	Description	Equipment required	Av. Grade (%)	Av. Haul distance (ft)	Material type	Material volume (cy)
2-1	Excavate topsoil from site A and move to Site B for temporary storage	Dozer	0	50	loose soil	300
		Loader	0	--	loose soil	300
		Dump truck	0	100 cy at 100', 100 cy at 300', 100 cy at 500'	loose soil	300
2-2	Salvage topsoil and large organic debris from Sites A, B, and C (.8 acres)	Dozer	0	--	in place soil	640
Total						

Job 3 - Site A: Debris Consolidation and Burial, Material Excavation, and Material Filling in the Soil Pit Area

Job sub-number	Description	Equipment required	Av. Grade (%)	Av. Haul distance (ft)	Material type	Material volume (cy)
3-1	Debris consolidation in soil pit area (~2000 cy to be moved)	Dozer	0	100	large debris	2000
3-2	Export Outslope South CP 0+65 to CP 4+00	Dozer	0	--	sg	5233
3-3	Bury consolidated debris	Dozer	0	120	sg	4487
	Outslope northern cutbanks	Dozer	10	170	sg	746
Total						

Job 4 - Site A: Excavation of Soil Piles and Outsloping of Cutbanks in the Soil Pile Area

Job sub-number	Description	Equipment required	Av. Grade (%)	Av. Haul distance (ft)	Material type	Material volume (cy)
4-1	Excavate soil piles	Dozer	0	--	sg	2100
4-2	Outslope cutbanks	Dozer	18	50	sg	2100
Total						

Job 5 - Sites B and C: Excavate and Export Berm

Job sub-number	Description	Equipment required	Av. Grade (%)	Av. Haul distance (ft)	Material type	Material volume (cy)
--	Excavate the Berm	Dozer	0	180	sg	1110
Total						

Job 6 - Sites B and C: Rip all compacted surfaces

Job sub-number	Description	Equipment required	Av. Grade (%)	Av. Haul distance (ft)	Material type	Material volume (cy)
--	Rip all compacted surfaces - 4.2 acres	Dozer with ripper attachments	0	--	sg	
Total						

Job 7 - Sites B and C: Outslope Cutbanks from CP 0+00 to CP 12+66 on the BC Survey Line

Job sub-number	Description	Equipment required	Av. Grade (%)	Av. Haul distance (ft)	Material type	Material volume (cy)
7-1	Outslope from CP 0+00 to CP 3+50	Dozer	22	50	sg	1110
7-2	Outslope cutbanks from CP 3+50 to CP 11+24	Dozer	-10	140	sg	5160
7-3	Outslope cutbanks from CP 11+24 to CP 12+66	Dozer	-17	30	sg	330
Total						

Job 8 - Sites B and C: Topsoil Amendment and Spreading

Job sub-number	Description	Equipment required	Av. Grade (%)	Acres	Material type	Material volume (cy)
8-1	Spread topsoil that was stockpiled at Sites B and C evenly over all disturbed surfaces in Sites B and C	Dozer	0	4.5	Soil	580
8-2	Spread topsoil that was stockpiled at Site A evenly over all disturbed surfaces in Site A	Dozer	0	1	Soil	80
8-3	Spread 700 cy of composted manure (supplied by government) evenly over all disturbed surfaces in Sites A, B, and C.	Dozer	0	5.5	Soil	700
8-4	Disc topsoil and composted manure a minimum of 6" into existing subsoil material.	Tractor with disc attachments	0	5.5	Soil	--
8-5	Grade out all surfaces so that they are smooth (i.e., there are no ruts that are greater than 3" in height).	Dozer	0	5.5	Soil	--
8-6	Distribute straw bales	Dozer	--	6	Straw bales	266 bales
Total						